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PTO/SB/05 (2/98)
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UTILITY PATENT APPLICATION TRANSMITTAL

(Only for new nonprovisional applications under 37 C.F.R. § 1.53(b))

Attorney Docket No.	678-139 (P8415/STN)
First Inventor or Application Identifier	Hye-Young LEE
Title	MOBILE TELEPHONE CAPABLE . . .
Express Mail Label No.	EL071685290US

APPLICATION ELEMENTS

See MPEP chapter 600 concerning utility patent application contents.

1. [X] * Fee Transmittal Form (e.g., PTO/SB/17) (Submit an original and a duplicate for fee processing)
2. [X] Specification [Total Pages 11] (preferred arrangement set forth below)
   - Descriptive title of the Invention
   - Cross References to Related Applications
   - Statement Regarding Fed sponsored R & D
   - Reference to Microfiche Appendix
   - Background of the Invention
   - Brief Summary of the Invention
   - Brief Description of the Drawings (if filed)
   - Detailed Description
   - Claim(s)
   - Abstract of the Disclosure
3. [X] Drawing(s) (35 U.S.C. 113) [Total Sheets 3]
4. Oath or Declaration [Total Pages]
   a. [ ] Newly executed (original or copy)
   b. [ ] Copy from a prior application (37 C.F.R. § 1.63(d)) (for continuation/divisional with Box 17 completed) (Note Box 5 below)
      i. [ ] DELETION OF INVENTOR(S) Signed statement attached deleting inventor(s) named in the prior application, see 37 C.F.R. §§ 1.63(d)(2) and 1.33(b).
5. [ ] Incorporation By Reference (useable if Box 4b is checked) The entire disclosure of the prior application, from which a copy of the oath or declaration is supplied under Box 4b, is considered to be part of the disclosure of the accompanying application and is hereby incorporated by reference therein.

ADDRESS TO: Assistant Commissioner for Patents, Box Patent Application, Washington, DC 20231

6. [ ] Microfiche Computer Program (Appendix)
7. Nucleotide and/or Amino Acid Sequence Submission (if applicable, all necessary)
   a. [ ] Computer Readable Copy
   b. [ ] Paper Copy (identical to computer copy)
   c. [ ] Statement verifying identity of above copies

ACCOMPANYING APPLICATION PARTS

8. [ ] Assignment Papers (cover sheet & document(s))
9. [ ] 37 C.F.R.§3.73(b) Statement (when there is an assignee) [ ] Power of Attorney
10. [ ] English Translation Document (if applicable)
11. [ ] Information Disclosure Statement (IDS)/PTO-1449 [ ] Copies of IDS Citations
12. [ ] Preliminary Amendment
13. [X] Return Receipt Postcard (MPEP 503) (Should be specifically itemized)
14. [ ] * Small Entity Statement(s) [ ] Statement filed in prior application, Status still proper and desired (PTO/SB/09-12)
15. [ ] Certified Copy of Priority Document(s) (if foreign priority is claimed)
16. [X] Other: Check for $790.00

* NOTE FOR ITEMS 1 & 14: IN ORDER TO BE ENTITLED TO PAY SMALL ENTITY FEES, A SMALL ENTITY STATEMENT IS REQUIRED (37 C.F.R. § 1.27), EXCEPT IF ONE FILED IN A PRIOR APPLICATION IS RELIED UPON (37 C.F.R. § 1.28).

17. If a CONTINUING APPLICATION, check appropriate box, and supply the requisite information below and in a preliminary amendment:
[ ] Continuation [ ] Divisional [ ] Continuation-in-part (CIP) of prior application No: ____/____

Prior application information: Examiner _____ Group / Art Unit: _____

18. CORRESPONDENCE ADDRESS

[ ] Customer Number or Bar Code Label (Insert Customer No. or Attach bar code label here) or [X] Correspondence address below

Name	Frank Chau, Esq.
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State	NY
Zip Code	11553
Country	USA
Telephone	(516)228-8484
Fax	(516)228-8516

Name (Print/Type)	Frank Chau	Registration No. (Attorney/Agent)	34,136
Signature		Date	7-17-98

Burden Hour Statement: This form is estimated to take 0.2 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Box Patent Application, Washington, DC 20231.

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FEE TRANSMITTAL

Patent fees are subject to annual revision on October 1. These are the fees effective October 1, 1997. Small Entity payments must be supported by a small entity statement, otherwise large entity fees must be paid. See Forms PTO/SB/09-12. See 37 C.F.R. §§ 1.27 and 1.28.

TOTAL AMOUNT OF PAYMENT ($)

Complete if Known	
Application Number	
Filing Date	
First Named Inventor	Hye-Young LEE
Examiner Name	
Group / Art Unit	
Attorney Docket No.	678-139 (P8415/STN)

METHOD OF PAYMENT (check one)

1. [X] The Commissioner is hereby authorized to charge indicated fees and credit any over payments to:

Deposit Account Number: 04-1121
Deposit Account Name: Dilworth & Barrese

[X] Charge Any Additional Fee Required Under 37 C.F.R. §§ 1.16 and 1.17
[ ] Charge the Issue Fee Set in 37 C.F.R. § 1.18 at the Mailing of the Notice of Allowance

2. [X] Payment Enclosed: [X] Check [ ] Money Order [ ] Other

FEE CALCULATION

1. BASIC FILING FEE

Large Entity Fee Code	($)	Small Entity Fee Code	($)	Fee Description	Fee Paid
101	790	201	395	Utility filing fee	790
106	330	206	165	Design filing fee	
107	540	207	270	Plant filing fee	
108	790	208	395	Reissue filing fee	
114	150	214	75	Provisional filing fee	
				SUBTOTAL (1)	($) 790

2. EXTRA CLAIM FEES

		Extra Claims		Fee from below		Fee Paid
Total Claims	12	-20** =	0	X 22	=	0
Independent Claims	2	- 3** =	0	X 82	=	0
Multiple Dependent					=	

**or number previously paid, if greater; For Reissues, see below

Large Entity Fee Code	($)	Small Entity Fee Code	($)	Fee Description
103	22	203	11	Claims in excess of 20
102	82	202	41	Independent claims in excess of 3
104	270	204	135	Multiple dependent claim, if not paid
109	82	209	41	** Reissue independent claims over original patent
110	22	210	11	** Reissue claims in excess of 20 and over original patent
				SUBTOTAL (2) ($) 0

FEE CALCULATION (continued)

3. ADDITIONAL FEES

Large Entity Fee Code	($)	Small Entity Fee Code	($)	Fee Description	Fee Paid
105	130	205	65	Surcharge - late filing fee or oath	
127	50	227	25	Surcharge - late provisional filing fee or cover sheet.	
139	130	139	130	Non-English specification	
147	2,520	147	2,520	For filing a request for reexamination	
112	920*	112	920*	Requesting publication of SIR prior to Examiner action	
113	1,840*	113	1,840*	Requesting publication of SIR after Examiner action	
115	110	215	55	Extension for reply within first month	
116	400	216	200	Extension for reply within second month	
117	950	217	475	Extension for reply within third month	
118	1,510	218	755	Extension for reply within fourth month	
128	2,060	228	1,030	Extension for reply within fifth month	
119	310	219	155	Notice of Appeal	
120	310	220	155	Filing a brief in support of an appeal	
121	270	221	135	Request for oral hearing	
138	1,510	138	1,510	Petition to institute a public use proceeding	
140	110	240	55	Petition to revive - unavoidable	
141	1,320	241	660	Petition to revive - unintentional	
142	1,320	242	660	Utility issue fee (or reissue)	
143	450	243	225	Design issue fee	
144	670	244	335	Plant issue fee	
122	130	122	130	Petitions to the Commissioner	
123	50	123	50	Petitions related to provisional applications	
126	240	126	240	Submission of Information Disclosure Stmt	
581	40	581	40	Recording each patent assignment per property (times number of properties)	
146	790	246	395	Filing a submission after final rejection (37 CFR 1.129(a))	
149	790	249	395	For each additional invention to be examined (37 CFR 1.129(b))	
				Other fee (specify)	
				Other fee (specify)	
				*Reduced by Basic Filing Fee Paid SUBTOTAL (3)	($) 0

SUBMITTED BY				Complete (if applicable)	
Typed or Printed Name	Frank Chau			Reg. Number	34,136
Signature		Date	7/17/98	Deposit Account User ID	04-1121

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PATENT

Atty. Docket No. 678-139 (P8415/STN)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Assistant Commissioner for Patents
Washington, D.C. 20231

UTILITY APPLICATION FEE TRANSMITTAL

Sir:

Transmitted herewith for filing is the patent application of

Inventor(s): Hye-Young LEE

For: MOBILE TELEPHONE CAPABLE OF DISPLAYING WORLD TIME AND METHOD FOR CONTROLLING THE SAME

Enclosed are:

[X] 7 page(s) of Specification

[X] 3 page(s) of Claims

[X] 1 page(s) of Abstract

[X] 3 sheets of drawings [ ] formal [X] informal

[ ] _____ page(s) of Declaration and Power of Attorney

[ ] An Assignment of the invention to _____

CERTIFICATION UNDER 37 C.F.R. § 1.10

I hereby certify that this New Application Transmittal and the documents referred to as enclosed therein are being deposited with the United States Postal Service on this date July 17, 1998 in an envelope as "Express Mail Post Office to Addressee" Mail Label Number EL071685290US addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231.

Maureen A. Joyce
(Type or print name of person mailing paper)

(Signature of person mailing paper)

[ ] This application claims the benefit under 35 U.S.C. §119(e) of U.S. Provisional Application(s) No(s).:

APPLICATION NO(S).:	FILING DATE
__/_____	_____
__/_____	_____

[ ] Certified copy of application

Country	Appln. No.	Filed

from which priority under Title 35 United States Code, § 119 is claimed

[ ] are enclosed.
[ ] will follow.

CALCULATION OF UTILITY APPLICATION FEE

For	Number Filed		Number Extra	Rate	Basic Fee $790.00
Total Claims*	12	-20 =	0	x $ 22.00	$ -0-
Independent Claims	2	- 3 =	0	x $ 82.00	$ -0-
Dependent Claims	[x] no		Add'l. Fee	None =	$ -0-
				TOTAL	$790.00

[ ] Verified Statement of "Small Entity" Status Under 37 C.F.R. § 1.27. Reduced fees under 37 C.F.R. § 1.9(f) (50% of total) paid herewith $_____.

[ ] A check in the amount of $_____ for recording the attached Assignment is enclosed.

[X] A check in the amount of $790.00 to cover the recording fee is attached.

[ ] Charge fee to Deposit Account No. 04-1121. Order No. _____ TWO (2) COPIES OF THIS SHEET ARE ENCLOSED.

*Includes all independent and single dependent claims and all claims referred to in multiple claims. See 37 C.F.R. § 1.75(c).

[X] Please charge any deficiency as well as any other fee(s) which may become due under 37 C.F.R. § 1.16 and 1.17, at any time during the pendency of this application, or credit any overpayment of such fee(s) to Deposit Account No. 04-1121. Also, in the event any extensions of time for responding are required for the pending application(s), please treat this paper as a petition to extend the time as required and charge Deposit Account No. 04-1121 therefor. TWO (2) COPIES OF THIS SHEET ARE ENCLOSED.

Date: July 17, 1998

SIGNATURE OF ATTORNEY

Frank Chau
Reg. No. 34,136

DILWORTH & BARRESE
333 Earle Ovington Blvd.
Uniondale, NY 11553
Tel. No. (516) 228-8484
Fax. (516) 228-8516

MOBILE TELEPHONE CAPABLE OF DISPLAYING WORLD TIME AND METHOD FOR CONTROLLING THE SAME

BACKGROUND

1. Technical Field

The present application generally relates to an apparatus and method for providing local time information and, in particular, to a mobile telephone which is capable of calculating and displaying the local time for a plurality of cities in the world, and a method for controlling the same.

2. Description of the Related Art

The development of the industrial society has raised demands for mobile communication equipment such as mobile telephones. The mobile telephone has overcome the mobility limitation of the wired telephone, thereby contributing to the convenience of the users. Typically, mobile telephones have a clock function for displaying the regional time.

A user of a mobile telephone may occasionally want to know the local time of a certain city in a particular country. Conventionally, in order to determine this local time, the user would have to manually calculate the time difference between the user's present location and the desired city by using a world time table, which is a burdensome task. Therefore, there has been a demand for a mobile telephone which is capable of automatically calculating and displaying the local time of a desired city.

SUMMARY OF THE INVENTION

The present application is directed to an apparatus and method for calculating and displaying the local time for a plurality of cities in the world. In one aspect, an apparatus for displaying local time information, comprises: means for storing Greenwich mean time (GMT) information for each of a plurality of cities; means for setting a reference time; means for counting a duration of time that elapses from when the reference time is set; means for selecting at least one of the plurality

of cities and calculating a local time of the selected city, the local time being based on a difference between the GMT of the selected city and the GMT of a present location of the apparatus, the reference time and the elapsed time; and means for outputting the local time.

The reference time may be either a time set by the user or a system time acquired from signal received from a remote system (e.g., a sync channel message received by a mobile telephone from a base station in a cellular communication system).

These and other objects, features and advantages of the present invention will become apparent from the following detailed description of illustrative embodiments, which is to be read in connection with the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a block diagram of an apparatus in which the present invention can be implemented; and

FIGs. 2A and 2B is a flow diagram illustrating a method for calculating and displaying the world time according to an embodiment of the present invention.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

It is to be understood that in the following description of preferred embodiments, specific details are set forth to provide a more thorough understanding of the present invention, notwithstanding that one skilled in the art may practice the invention without these specific details. In other instances, a detailed description of well known functions or constructions have been omitted so as to not obscure the present invention.

Referring now to FIG. 1, a block diagram illustrates a mobile telephone in which the present invention can be implemented. A controller 110 (e.g., microprocessor) controls the overall operations of the mobile telephone. In particular, the controller 110 enters into a "world time display mode" when the user inputs a

command for displaying the local time of a certain city or country. In the "world time display mode", the controller 110 calculates the local time of the selected city by using a difference value between the Greenwich mean time (GMT) of the selected city and the GMT of the city where the mobile telephone is located, and the regional time. A first memory 111 (e.g., a flash memory), operatively connected to the controller 110, stores a control program for the controller 110, as well as initial service data and GMT data for each of the major cities in the world. A second memory 112 (e.g., random access memory (RAM)), operatively connected to the controller 110, temporarily stores data generated during operations of the mobile telephone, including the system time and a user set time. A third memory 113 (e.g., an electrically erasable and programmable read only memory (EEPROM)), operatively connected to the controller 110, stores the parameters required for the various operations of the mobile telephone, as well as telephone numbers input by the user. A keypad 114, operatively connected to the controller 110, generates key data for setting various operational modes of the mobile telephone, for selecting the city the local time of which the user desires to know, and for dialing the telephone number. The keypad 114 provides the controller 110 with the corresponding key data. A logic circuit 115 exchanges a plurality of data with the controller 110 and outputs control data to every functional element of the mobile telephone. A data processor 116 (e.g., a digital signal processor (DSP)) processes reception data ("RXD") output from a radio frequency (RF) receiver 120 and provides the processed reception data ("RXD") to the controller 110. Further, the data processor 116 processes transmission data DT output from the controller 110 and provides the processed transmission data TXD to an RF transmitter 121.

A duplexer 122, connected to an antenna 124, separates a transmission RF signal output from the RF transmitter 121 and a reception RF signal input to the RF receiver 120. A reception audio signal RXA and the reception data RXD output from the RF receiver 120 are transferred to an audio receiver 117 and the data processor 116, respectively. The audio receiver 117 reproduces the reception audio

signal RXA. An audio transmitter 118 receives an input audio signal and generates a transmission audio signal TXA. The RF transmitter 121 receives the transmission data TXD and the transmission audio signal TXA, modulates them into the RF transmission signals, and then transfers the RF transmission signals to the duplexer 122. A frequency synthesizer 119 generates frequency synthesized signals for allocating a reception channel for the RF receiver 120 and a transmission channel for the RF transmitter 121 in accordance with a control data CTL output from the logic circuit 118.

A display 123 displays the world time under the control of the controller 110. The controller 110 includes internal counters such as a user set time counter and a system time counter. The user set time counter counts the time which elapses from the time set by the user, and a system time counter counts the elapsed time based on the system time received from the base station of the CDMA (Code Division Multiple Access) cellular system.

Referring now to FIGs. 2A and 2B, a flow chart illustrates a method for calculating and displaying the world time according to an embodiment of the present invention. Initially, the controller 110 initializes the mobile telephone when the user activates a power key which turns on the mobile telephone (step 20). After initialization, the controller 110 enters into a "pilot channel acquisition mode" whereby the controller 110 determines whether a pilot channel is acquired for communication with the base station (step 22). If the pilot channel is not acquired (negative result in step 22), the controller 110 determines whether the time allocated for acquiring the pilot channel has elapsed (step 24). If the pilot channel acquisition time has not elapsed (negative result in step 24), the controller 110 continues to check if a pilot channel has been acquired (return to step 22). On the other hand, if the pilot channel acquisition time has elapsed (positive result in step 24), the controller 110 enters into the "initialization mode" (return to step 20).

Once the pilot channel is acquired (positive result in step 22), the controller 110 enters into a "sync channel acquisition mode" and makes a

determination as to whether a sync channel message is received from the base station (step 26). If the sync channel message is not received (negative result in step 26), the controller 110 determines whether the time allocated for receiving the sync channel message has elapsed (step 28). If the time for receiving the sync channel message has not elapsed (negative result in step 28), the controller 110 continues to check whether the sync channel message is received (return to step 26). On the other hand, if the prescribed time for receiving the sync channel message has elapsed (positive result in step 28), the controller returns to the "initialization mode" (return to step 20).

Once the sync channel message is received (positive result in step 26), the controller 110 extracts the system time, as well as various parameters, from the received sync channel message and stores the extracted data (step 30). In particular, the sync channel message includes information such as the system time, a local time offset (i.e., a time difference) between the system time and the regional time, and a leap second occurrence after the system time counter is enabled.

Next, the controller 110 enters into an "idle mode" (step 32), during which the controller 110 monitors a paging channel and determines whether the user makes an outgoing call or selects other functions. The controller 110 then determines whether the user has set the user time (e.g., via the keypad 114) (step 34). If the user time is set (positive result in step 34), the controller 110 enables the user set time counter to count the time which elapses from when the user time is set (step 36). If the user time is not set (negative result in step 34), the controller 110 determines whether the system time is set (step 38). If so (positive result in step 38), the controller 110 enables the system time counter to count the time which elapses from when the system time is set (step 40). On the other hand, if both the user time and the system time are not set (negative result in steps 34 and 38), the controller 110 determines if the user has selected a "user time setting mode" (step 42). If the "user time setting mode" is selected (positive result in step 42), the controller 110 enters into a "user time setting mode" and performs the user time setting subroutine to set the reference time (step 44).

On the other hand, if the "user time setting mode" is not set (negative result in step 42), the controller 110 determines whether the user has selected a "world time display mode" (step 46 in Fig. 2B). If the "world time display mode" is set (positive result in step 46), the controller 110 enters into the "world time display mode" and determines whether the system time or the user time are set (step 48). If it is determined that neither the system time nor the user time are set (negative result in step 48), the controller 110 displays (via the display 123) an error message notifying the user to set the system time or the user time (step 50) and the controller enters back into the "idle mode" (return to step 32 in Fig. 2A). On the other hand, if the controller 110 has either acquired the system time from the sync channel message or has the set user time (positive result in step 48), the controller 110 determines whether the user has selected a city for which the user wants to know the local time (step 52). If the user has selected a city (positive result in step 52), the controller 110 calculates the local time of the selected city based on the GMT of the selected city and the GMT of the present location, and either the system time or the user set time and the corresponding elapsed time, and then displays the calculated time on the display 123 (step 56).

On the other hand, if it is determined that the user has not selected a city (negative result in step 52), the controller 110 displays a message inquiring whether the user wants to terminate the "world time display mode", and then determines whether the user has elected to release the "world time display mode" (step 54). If so (positive result in step 54), the controller enters into the "idle mode" (return to step 32 Fig. 2A). If the user elects not to release the "world display mode" (negative result in step 54), the controller will continue to check if the user has selected a city (return to step 52).

After the calculated local time of the selected city is displayed (step 56), the controller 110 determines whether the user has activated a scroll key to select another city (step 58). If the user activates the scroll key (positive result in step 58), the controller 110 calculates the local time of the next city selected from a displayed

city list and displays the calculated time on the display 123 (step 60). The controller 110 then determines whether the scroll key has been activated again (return to step 58). If the scroll key is not activated (negative result in step 58), the controller 110 displays a message inquiring whether the user wants to terminate "the world time display mode", and then determines whether the "world time display mode" has been released by the user (step 62). If the user releases the "world time display mode" (positive result in step 62), the controller enters into the "idle mode" (return to step 32 Fig. 2A). On the other hand, if the user elects to continue the "world time display mode" (negative result in step 62), the controller 110 determines whether the user has activated the scroll key (return to step 58) (i.e., selected another city). It is to be appreciated that the user can readily check the world time by having the mobile telephone display the local times of the major cities of the world (i.e., repeating steps 58, 60 and 62 to scroll through each city in the city list and calculate and display the corresponding local time).

Although the illustrative embodiments of the present invention have been described herein with reference to the accompanying drawings, it is to be understood that the invention is not limited to those precise embodiments, and that various other changes and modifications may be affected therein by one skilled in the art without departing from the scope or spirit of the invention. All such changes and modifications are intended to be included within the scope of the invention as defined by the appended claims.

WHAT IS CLAIMED IS:

1. An apparatus for displaying local time information, comprising:

means for storing Greenwich mean time (GMT) information for each of a plurality of cities;

means for setting a reference time;

means for counting a duration of time that elapses from when said reference time is set;

means for selecting at least one of said plurality of cities and calculating a local time of said selected city, said local time being based on a difference between the GMT of said selected city and the GMT of a present location of said apparatus, said reference time and said elapsed time; and

means for outputting said local time.

2. The apparatus of claim 1, wherein said apparatus is a mobile telephone.

3. The apparatus of claim 1, wherein said reference time is set by a user of said apparatus.

4. The apparatus of claim 1, wherein said reference time is acquired from a signal received from a remote system.

5. The apparatus of claim 2, wherein said reference time is a system time acquired from a sync channel message received by said mobile cellular phone from a base station of a CDMA (Code Division Multiple Access) cellular system.

6. In an apparatus having a display and a memory for storing Greenwich mean time (GMT) information for each of a plurality of cities, a method for generating local time information, comprising the steps of:

setting a reference time;

counting a time which elapses from said setting of said reference time;

selecting at least one of said plurality of cities;

calculating a local time of said selected city based on a difference between the GMT of said selected city and the GMT of a present location of said apparatus, said reference time and said elapsed time; and

displaying said calculated local time.

7. The method of claim 6, further comprising the step of displaying a message to set a reference time if said step of setting a reference time does not occur.

8. The method of claim 6, wherein said step of selecting includes the substeps of:

displaying a list of said plurality of cities; and

scrolling through said list to select a desired one of said plurality of cities.

9. The method as claimed in claim 6, wherein said reference time is a time set by a user.

10. The method of claim 6, wherein said reference time is a system time acquired from a signal generated from a remote system and received by said apparatus.

11. The method of claim 6, wherein said apparatus is a mobile telephone.

12. The method of claim 11, wherein said reference time is a system time acquired from a sync channel message received from a base station of a CDMA cellular system.

ABSTRACT OF THE DISCLOSURE

An apparatus and method for calculating and displaying local time for a plurality of cities in the world. The apparatus includes a memory for storing Greenwich mean time (GMT) information for each of the plurality of cities. The apparatus sets a reference time and counts the time that elapses from when the reference time is set. The apparatus calculates a local time of a city selected by a user, which is based on a difference between the GMT of the selected city and the GMT of a present location of the apparatus, the reference time and the counted elapsed time. The reference time may be either a time set by the user or a system time acquired from a signal generated from a remote system.

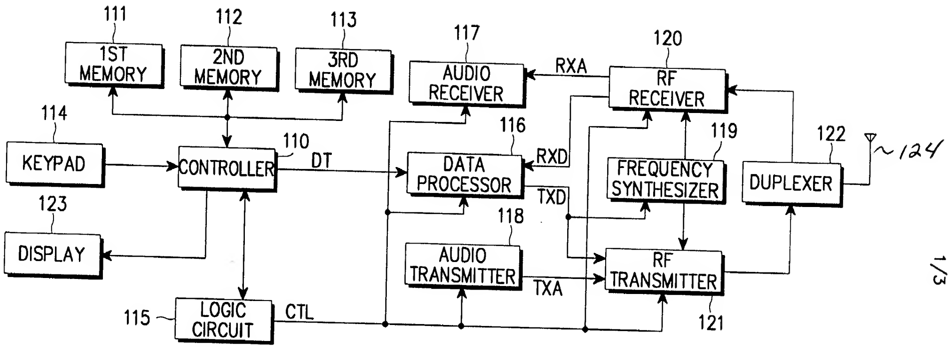
111
1ST MEMORY
112
2ND MEMORY
113
3RD MEMORY
114
KEYPAD
110
CONTROLLER
DT
123
DISPLAY
115
LOGIC CIRCUIT
CTL
117
AUDIO RECEIVER
116
DATA PROCESSOR
118
AUDIO TRANSMITTER
RXA
RXD
TXD
TXA
120
RF RECEIVER
119
FREQUENCY SYNTHESIZER
121
RF TRANSMITTER
122
DUPLEXER
~124

FIG. 1

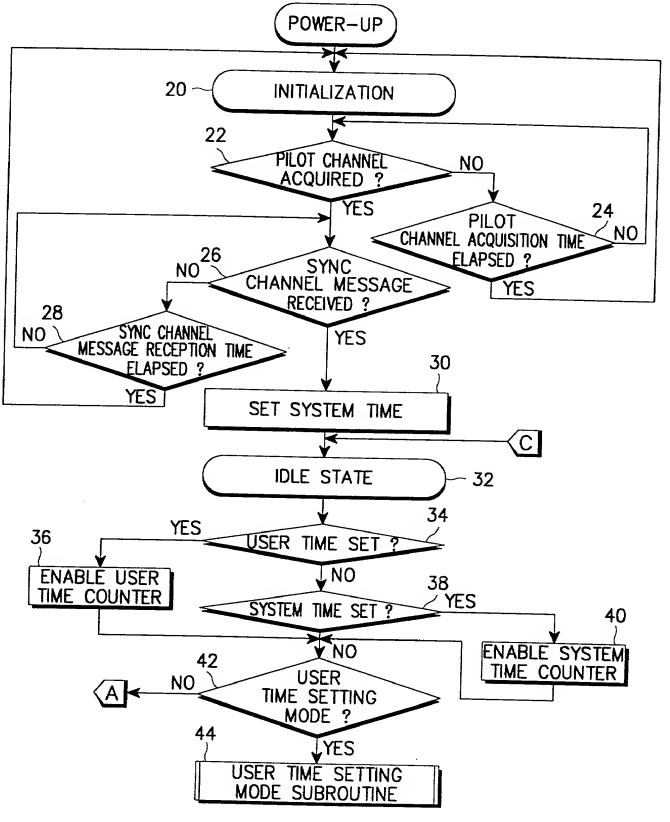
POWER-UP
20
INITIALIZATION
22
PILOT CHANNEL ACQUIRED ?
NO
YES
24
PILOT CHANNEL ACQUISITION TIME ELAPSED ?
NO
YES
26
NO
SYNC CHANNEL MESSAGE RECEIVED ?
28
NO
SYNC CHANNEL MESSAGE RECEPTION TIME ELAPSED ?
YES
YES
30
SET SYSTEM TIME
C
IDLE STATE
32
34
YES
USER TIME SET ?
36
ENABLE USER TIME COUNTER
NO
38
SYSTEM TIME SET ?
YES
40
ENABLE SYSTEM TIME COUNTER
NO
42
A
NO
USER TIME SETTING MODE ?
44
YES
USER TIME SETTING MODE SUBROUTINE

FIG. 2A

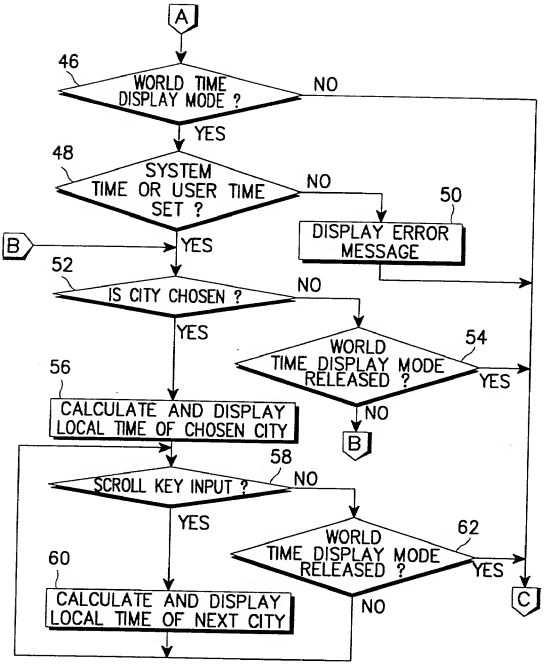
A
46
WORLD TIME DISPLAY MODE ?
NO
YES
48
SYSTEM TIME OR USER TIME SET ?
NO
50
DISPLAY ERROR MESSAGE
B
YES
52
IS CITY CHOSEN ?
NO
YES
54
WORLD TIME DISPLAY MODE RELEASED ?
YES
56
CALCULATE AND DISPLAY LOCAL TIME OF CHOSEN CITY
NO
B
58
SCROLL KEY INPUT ?
NO
YES
62
WORLD TIME DISPLAY MODE RELEASED ?
YES
60
CALCULATE AND DISPLAY LOCAL TIME OF NEXT CITY
NO
C

FIG. 2B

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